



Mamunni

**Avinashilingam Institute for Home Science and Higher Education for Women (Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with A++ Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India**

**Continuous Internal Assessment I – August 2024
Semester – III**

Class: II UG

Time: 2 Hrs

Major: Computer Science

Max.Marks:60

23BCSC05 Operating Systems

- CO1: Obtain Knowledge to know about the types of algorithms.
CO2: Understand the concepts of Kernels and threading concepts.
CO3: Learning about Deadlocks and their types.
CO4: Develop skills on Memory Management.
CO5: Trained skills in Android Applications

Part A

Circle the Correct Answer

6X1 = 6

1. What is the primary role of an Operating System ? CO1 K1
a. To provide a user interface for programming languages b. To execute application programs only
c. To manage computer hardware and software resources d. To provide internet connectivity
2. What is the primary benefit of multiprogramming in an operating system? CO1 K2
a. Improved network speed b. Increased CPU utilization by running multiple processes concurrently
c. Enhanced graphical user interfaces d. Faster data encryption
3. What is a system call? CO2 K1
a. A call between two user programs b. A request made by an application to the operating system for a service
c. A method to access kernel source code d. A network call between computers
4. Which mode is typically used by applications to ensure system stability and security? CO2 K2
a. Kernel Mode b. User Mode c. Supervisor Mode d. Hypervisor Mode
5. Which of the following is NOT one of the necessary conditions for a deadlock to occur in an operating system? CO3 K1
a. Mutual Exclusion b. Hold and Wait c. No Preemption d. Starvation
6. What is a common method used to prevent deadlock in operating systems? CO3 K2
a. Resource Allocation Graph b. Priority Scheduling
c. Deadlock Detection d. Mutual Exclusion

Part-B

Answer All the questions

Answer should not exceed 400 words or two pages

3x6=18

7. a. Briefly describe the evolution of operating systems from batch systems to modern-day systems CO1 K2
(Or)
b. Explain the role of memory management in an operating system. CO1 K1
8. a. Explain the roles of user mode and kernel mode in an operating system. CO2 K3
(Or)
b. What are system programs, and how do they differ from system calls? CO2 K2
9. a. Explain the four necessary conditions for deadlock to occur in an operating system CO3 K3
(Or)
b. Explain the thread libraries in an operating system. CO3 K2

Part-C
Answer All the questions

Answer should not exceed 800 words or four pages

3x12=36

10. a. Describe the basic functions of an operating system and provide an example of how each function is used. CO1 K2
(Or)
b. Explain the concept of resource abstraction in an operating system. How does it facilitate process management, memory management, and file management? CO1 K3
11. a. Explain the concept of a system call interface in an operating system. CO2 K2
(Or)
b. Explain the various types of CPU scheduling algorithms. CO2 K3
12. a. Discuss various deadlock detection and recovery techniques. Compare their advantages and disadvantages. CO3 K2
(Or)
b. Explain the concept of Deadlock prevention in detail. CO3 K2

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